The MAC Flyer

OCTOBER 1977

Overwater Gulf

Page 4.

MILITARY AIRLIFT COMMAND

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For Greater Efficiency
in MAC Air Operations

The MAC Flyer

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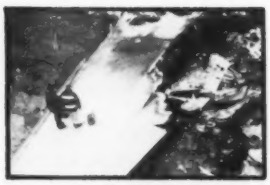
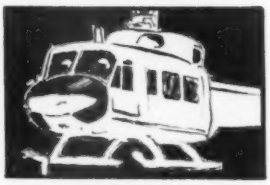


PAGE 10



PAGE 16

PAGE 25

A *TMF* Report: The Blue and Gold Concept 3
Overwater Gulf 4
Flying the Buzzard One Without a SID 8
Mishap with a Moral 10
The Flying Circus 12
The Sage Brush 14
Global Notes 15
Raven One-One-Four 16
The Loop 18
Good Show 20
Speaking of Discipline 21
Helicopter Legs 22
Deja Vu: Ascension Island 24
C.R. Terror 25
Quick Stoppers 28

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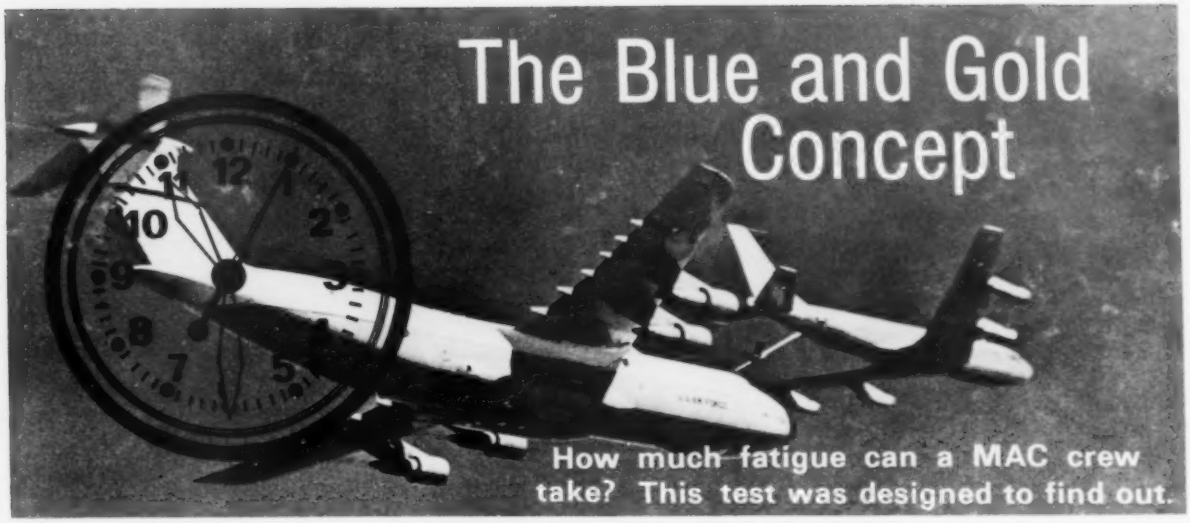
A *TMF* Report:

The Blue and Gold Concept



How much fatigue can a MAC crew take? This test was designed to find out.

The effect of fatigue on aircrew performance has long been a discussion topic at en route NCO and officers' clubs, flight surgeons' offices, operators' meetings, and planning conferences. And while it's common knowledge that any MAC crewmember can normally whip his weight in wildcats and occasionally live with a 27-hour crew duty day, we also know that our customary "absolutely superior" performance can dwindle to a merely "acceptable" one with the passage of time without some good Stage IV sleep.

We personally know of crewmembers who went to sleep on final approach after a long crew duty day—and others who overflew a checkpoint because *all* eyes on the flight deck were closed. Whose indiscretions these were isn't that important—the essential fact is that they can occur when men pass their level of endurance. MAC, with the air refuelable C-5, now has the capability to keep an aircraft airborne subject only to the limitations of its crews. But exactly what are those limitations?

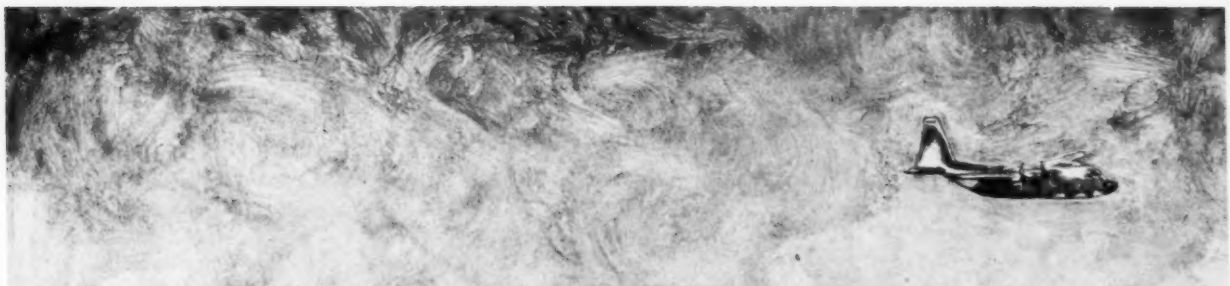
To answer that question, MAC surgeons and Plans types worked up an Operational Test and Evaluation (OT&E) plan dubbed the "Blue and Gold Concept." The test involved two C-5 aircraft and 12 AR-qualified C-5 crews. Two basic crews were assigned to each of six test missions. One medical observer was assigned to each crew and FE-qualified crewmembers were assigned duties as cockpit observers (FE's did not participate in the marathon, but crew rested as directed by MAC and AF regs).

Of the six missions planned, two were scheduled to be of approximately 32 hours duration, two more would run for approximately 44 hours, and the last two would last approximately 56 hours. The basic 16-hour crew duty day would be observed as much as possible—off-duty crews would rest aboard the Galaxy in specially improvised crew rest facilities.

The first test flight was launched 1 April 1977; the sixth recovered 11 May 77. All missions except the fourth were completed satisfactorily. During each of the six missions, the FE observers took notes of deviations in operations. They were acting only in the capacity of observers, not administering checkrides, though they retained the authority to relieve a crewmember if flying safety was jeopardized. The medical observers collected data to assess the physiological effects of flying double crew missions. This included urine sampling, subjective fatigue checklists, and sleep survey forms.

For safety, after the 20-hour point in each mission, a flight examiner pilot (properly crew rested) occupied the right seat during air refueling operations. He had immediate access to the controls in case serious deviations occurred. The FEAC also occupied the jumpseat during takeoff, approach, and landing. Restraint belts were worn by those crews resting in flight, and parachutes were donned by all for air refueling. Either the duty AC or medical observer had the authority to abort the mission for safety reasons.

The operational portion of "Blue and Gold" is over. What remains now is the collating of the reams of data collected. The entire package should be completed in mid-November, so look for further coverage in the January or February issue of *The MAC Flyer.*



A former TAC airlifter gives a new copilot his frank opinion of the way it was then—and the way it is now.

Overwater Gulf

by Capt Terrence J. Brady
Foreign Military Sales, HQ USAF
Washington, D.C.

"How long have you been flying the turkey bird, boss?"

The question jarred Tom Larkin from his daydream. "Say again, co?"

"I said, 'How long have you been flying the Herk?' "

"About seven years, more or less. I graduated from Randolph in 1970 and I've been in 130's ever since."

"Boy, I hope I'm not flying these birds that long," said the effervescent right-seater. "If I don't get a job with the airlines in a few years, I'll transfer over to the AMST."

Tom looked over at the young copilot. Les had been in the squadron for six months and had quickly established himself as an excellent copilot. Transition training had come easily for him and the excitement of a new aircraft was quickly wearing off.

"Good luck," said Tom, with only a trace of sarcasm.

"Rog. No sweat. The Air Corps will recognize my talents if the airlines don't."

Lake Pontchartrain and the beautiful city of New Orleans drifted below the nose of the C-130. Gage 49 was southbound from Little Rock on a ten-

hour overwater Gulf mission. It was a navigator trainer; the IN was wrapped up in precomps, sunlines, and radar fixes with the new student. The flight engineer was engrossed in an exciting Matt Helm novel while the loadmaster was somewhere "back there," reflecting on life's subtle mysteries.

All Tom wanted to do was to slip back into his reverie and ignore all conversation. It was impossible to sleep with the HF crackling in one ear and Houston Center controlling in the other. He had found that the only sure way to maintain one's sanity on these missions was to daydream and had developed the art of alert daydreaming typical of many heavy drivers. Tom had almost gotten back to Hawaii and the beaches of Waikiki when Les had intruded and brought him back to 21,000 feet and the Gulf of Mexico.

"Do you remember the old TAC days, boss?"

"Uh, huh," said Tom somewhat impatiently. "MAC took over the 130's in 1974. I flew with a TAC patch for my first four years."

"How was it back then?"

Slightly disgruntled, the aircraft commander unreclined his seat and readjusted his sun shield. The white sands of Waikiki would have to wait.

"It was okay. Not all that much different from the way it is now."

"That bad, huh?" remarked Les cynically.

"No, not really. The hardest thing for me was the patch change. I'd been swearing at that MAC patch for years and now I had to sew it on. It was quite a shock for some of us tactical types."

"Tell me what it was like under TAC, Tom."

"Sure," said Tom Larkin, warming up to his subject.

The engineer stirred in his seat. "I'll make sure he doesn't exaggerate, co. I was flight engineer on his first rote to Europe six years ago."

"Thanks, Sergeant La France," Tom grinned. "Keep me straight."

"Wilco."

"Most of us were pretty happy when we heard about the transfer from TAC to MAC. I believe we were thinking mostly about the aircrew harassment items: quarters, meals, and transport. We'd all seen MAC crews get the best transient handling for years and we figured our time had come.

"We'd all seen MAC crews get the best transient handling for years and we figured our time had come."

"I still remember my first run-in with MAC mission support as a TAC airlifter. I was on my first 65-day rotation to Rhein-Main, a brown bar with all of 400 total hours. Remember, Sergeant La France?"

The engineer's nod confirmed his recollections. He went on.

"We'd just finished a 16-hour-plus-extension crew day to Crete and Aviano and we were beat. It was winter in Frankfurt and pouring rain as usual; we'd just managed to slip in before they closed the field. The RVR was 16 and falling as we landed. The crew bus pulled up as we were deplaning; we could hardly believe it. I was the first to get to the bus and the driver asked if I was MAC or TAC. Like a fool, I said TAC. He said he was sorry and drove off leaving me standing in the rain. Forty minutes later, crew transport finally arrived. That was my first brush with MAC-or-TAC crew transport, but certainly not my last. It left quite an impression on this young brown bar.

"Then there was the time we were living in tents, government meals and billets provided, in Greece during a big NATO exercise and getting $2 a day. We weren't too unhappy because everyone was in the same boat. Then we ran into a C-141 crew at ALCE one day in their nice, clean flight suits and shiny boots. They told us tactical peons that they'd been spending the last couple of nights in a beautiful Greek hotel on the beach and getting nonavailability. Every tactical crew had their favorite story about the strategic crew checking into billeting with 15 crewmembers."

The engineer chuckled as the left-seater went on.

"I wasn't too concerned about the harassment items, though. I figured we'd get a better shake assigned to an airlift command than to a fighter command. *Now*

people say that instead of being third-class citizens in TAC, we're second-class citizens in MAC. They say that now crew transport asks, 'Strategic or tactical?' before they drive off leaving you standing in the rain. But, generally, I think things are better for us in the crew comfort areas."

"Pilot, nav," the student navigator broke in. "Sir, we just passed our turning point. Come left to a heading of 093 degrees."

The Hercules banked effortlessly as Larkin rotated the autopilot turn knob. He could see the sparkling gulf below as they turned toward the Florida coast. Only seven hours to go, he thought. These missions get longer every time. He relaxed and listened to the crackle of HF static as the copilot made the position report. The pleasant smell of an in-flight meal warming in the oven reminded Tom that he was getting hungry. He thought of the in-flight meal rule in MAC Regulation 55-1. The pilot and the copilot were not supposed to order the same meal and should ensure that they do not eat within one and one-half hours of one another.

"I wonder how many aircraft over the years have had emergencies because the pilots ate the same type meal within one and one-half hours of one another," he thought out loud.

"What was that, boss?" the copilot inquired. His position report finished, he was ready to hear more.

"Oh, nothing important. But look, as long as we're discussing TAC versus MAC, let me tell you what I think are the biggest problems we crewmembers face under MAC. I call them the three overs: overregulation, overcontrol, and overreaction.

". . . I can never go out to fly without the nagging feeling that I've forgotten something."

"As an AC in TAC, I had to be well versed in five or six key regulations. These regs were comprehensive, but they left a great deal to the judgment of the crew. In MAC, I've got three times that number to be familiar with, and nothing is left up to the crew's judgment. All that's required is that you carry the appropriate directives when you fly. These directives will tell you all you need to know about any possible situation you may run into. If a crew has a problem, all they have to do is open MAC reg 55-XXX and, lo and behold, there will be the approved solution. There's such a wealth of information for me to know that I can never go out to fly without the nagging fear that I've forgotten something. Even my friends in standardization complain that it's impossible to keep up with all the regulations and directives, not to mention the myriad of interpretations. They tell me a Qual Level 2 on checkride for knowledge of required directives is the rule rather than the exception.

"What they haven't covered in regulation, they've covered by the process of overcontrol. I have to brief with the command post prior to flight. The controller reminds me of all the things I should have done: check weather, check FCIF, check notams, check flight lunches, check transient alert, check aerial port, check weapons, check pub kits, check route kits, check map kits, et cetera, et cetera. Then I call them for permission to take off. I make in-flight reports on everything from aircraft status to weather. I have to call the controlling air force every two hours to check in with mother."

"Don't forget about Conference Skyhook," added the laconic flight engineer. "We have to initiate one almost every time we have an emergency. What good does it do me to know the Dash One when a command post controller reads it to me every time I have a problem? It makes me feel like a little kid who can't be trusted, not the professional I like to think I am."

"Do you see what I mean, Les?"

"I think so. But what do you mean by overreaction?"

Tom continued. "I've had four close friends busted back to copilot in the last three months. All four made mistakes. Mistakes

that any pilot with 1,500 hours in the C-130 has made at least once and maybe twice. The problem with the MAC system of complete command and control is that everything that a crew does becomes an immediate command interest item. All levels of command know what that aircraft commander is thinking and doing. They know immediately when a mistake has been made, and the decision on what to do about it is made at the highest levels. The guy's commander never has a chance to correct, to modify, or to punish." Tom paused. "And the crewmembers are gun-shy; they've learned that their squadron commanders and DO's no longer have the control they had in the TAC days. What do you think an aircraft commander will do if he runs up against a knotty problem in the system? He'll call home. He'll ask for relief from his heavy burden of responsibility. He'll put the weight of decision on the shoulders of the DO or commander. This is the main difference between TAC and MAC: an aircraft commander in TAC would tell the command post what he did, while a MAC aircraft commander asks what to do.

"But what really bothers me is the effect that these 'overs' have on the crew force. It's an initiative-killing process. An AC or an IP can't make a decision. Everything is covered: when to show the boss. He's merely a bus-driver with a suitcase full of pubs and a radio tuned in to the bus terminal. But a crew in TAC would be given a frag order, an aircraft, and a green light. They were responsible for the successful execution of that frag order. The aircraft commander handled all the problems. 'Come back when you are done,' TAC would say. We did a very creditable job, in my opinion."

Tom was worked up now. "What will we, as a military service, do when we need new leaders, new decision makers? There won't be any. No imagination, no initiative, and no motivation is being developed in the aircrewmember of today. I really worry about that. These aircraft commanders will be commanders in their own right some day—and what command post do they call when they run into a knotty problem? Will they be so steeped in this fashionable cover-your-rear attitude that not one will stand up for his men and women? Will every decision be weighed against the potential impact on one's career?"

"You really get emotional, boss," said Les.

"Yeah, sorry, Les," apologized Tom. "Maybe I've got the wrong outlook on things. But pessimism seems to be the order of the day, and we're losing too many good people to the outside world."

"No initiative is being developed in the aircrewmember of today."

at the aircraft, when to eat, when to pass a student, when to fail him, where to pull an engine, what load to bump, and whose pillow to put the bullets under on an RON. In reality, an AC isn't

"Is anything better under MAC—besides the crew comfort stuff?" asked the puzzled copilot.

The left-seater thought for a while. Maybe he had come on too strong with the impressionable copilot. He scanned the horizon. A squall line loomed ahead directly on Gage 49's route of flight. Deviation would be necessary to comply with 60-16/MACSUP 1 criteria.

In TAC, he would have gone right through the line with a good radar and a navigator he had confidence in. The mission always had priority in TAC. "Press on," was the unvarying order from higher headquarters.

Tom Larkin, C-130 pilot, 3,500 flying hours, 83 combat missions, Distinguished Flying Cross, Air Medal with four Oak Leaf Clusters, chuckled.

"Maybe . . . just maybe . . . we fly a little safer," he said as he banked the Hercules northward to avoid the squall line.

ABOUT THE AUTHOR

Captain Brady recently departed the 314th Tactical Airlift Wing, Little Rock AFB, Arkansas, for an ASTRA tour and a large gray desk at the Pentagon as Action Officer, Foreign Military Sales. He has over 2,000 flying hours, mostly in the C-130. His world-wide flying experience includes 64 combat missions in Southeast Asia. Captain Brady is a 1969 graduate of the United States Air Force Academy and holds a Masters of Business Administration from the University of Utah.

When you "kick the tires and light the fires" it's easy to get burned.

Flying the Buzzard One Without a SID

Are you in afterburner before the canopy is closed? Do you find yourself overhead before you start your descent? Are your fuel reserves what you went through five minutes ago? Are your flaps going down when your gear should be going up? Are you figuring the form F on takeoff roll? Is your sextant still in the BOQ at Wheelus? (They closed in '69.) Well, step right up, Master Aviator. We have a solution. You already know the answer, you say? Listen to the saga of Turkey 79 before you say for sure.

It all started with an 0330 get-up for a sunrise departure. Two VIP's were to be transported in comfort from Wide Fork AB to that five-sided ring in the east. The pilot had completed his annual physical the day prior and was ready to do battle with the airways. Flight planning proceeded normally with few interruptions. Then the command post advised the crew that the radar was out—but that this airplane was the last backup. *"Okay, we'll take it."*

The weather people said there was a line of thunderstorms en route. *"We can probably get around them visually."*

Landing winds at destination were forecast to be out of limits, but the current weather at destination showed the winds to be light and variable. *"The forecast must be wrong."*

With one plus 30 to go before departure, base ops got the call that the VIP's were en route to the flight line. What followed was reminiscent of what must have taken place at Pearl Harbor when the Japanese were first sighted.

Scene One

Pilot (*to copilot*): You head for the aircraft, run the checklists; when they show up, hit number three.

by **Maj Ronald K. Sable**
Asst for Civil Air, HQ MAC DCS/Plans
Scott AFB, Illinois

Don't worry about the pubs; I'll get them. Oh, yeah, call the inflight kitchen on guard. Tell them to get the coffee out ASAP.

Copilot (*to blank wall)* : Who are these passengers, anyway?

Pilot (*to base ops dispatcher)* : Ram the flight plan through, Jack—we gotta scoot.

Copilot (*having just run the 100 in eight flat, to crew chief)* : Get the power cart quick. They're coming!

Crew chief (*to ramp vehicle)* : Who are these guys, anyway?

Copilot (*to ground control)* : This is Turkey 79. Put our clearance on request. IFR to—standby.

Navigator (*to copilot)* : I think you transmitted on interphone.

Copilot (*to base ops dispatcher)* : Do you show Turkey 79 filed to Andrews?

Base ops dispatcher (*to copilot)* : The AC said Andrews, but then muttered something about the winds being out of limits. The 175 says Pago Pago. Are you sure that's what he meant?

Crew chief (*to copilot)* : They're here! Number three is clear.

Copilot (*to base ops dispatcher)* : Cranking three—change it to Andrews—Pago Pago is PPR.

Scene Two

Pilot (*to passengers)* : Yes, Sir, a bit bumpy, but I expect a good flight . . . uhh, one plus, uhh, 15 en route.

Pilot (*to copilot)* : All set? What's our outbound heading?

Copilot (*to pilot)* : Why, uhh, yeah, hmmm. Say, did you bring the pubs?

Pilot (*to copilot)* : Yeah, I got the weapon. Here, stick it under your seat—I hate the things.

Copilot (*to ground control, using channel 13)* : Turkey 79 to cross midfield. I have the traffic in the flare.

Tower (*to Ram 23 which is in the flare)* : Take it around—traffic crossing midfield.

Ram 23 (*to tower)* : Who are those guys anyway?

Copilot (*to tower)* : Turkey 79 is number one with two—VIP's, that is.

Copilot (*to pilot)* : Did you have a chance to figure takeoff data?

Pilot (*to copilot)* : Hmmm . . . 123 was rotate on Monday's local . . . that looks good today. If we have a problem on takeoff, I've got it—which will be followed by a demonstration that would have made Orville proud.

Tower (*to Turkey 79)* : Cleared Buzzard One departure. After departure, turn left 040 degrees. Cleared for takeoff.

Pilot (*to copilot)* : Did he say Buzzard Four? Do you have a SID?

Copilot (*to pilot)* : Didn't you say you'd get the pubs?

Curtain

Hold it, you say, no way all that could happen before they get airborne. Hopefully, you're right. Fortunately, the scenes just related are *not* based on fact. Again, fortunately, there are enough professionals around who believe in preplanning the mission and keeping the story of Turkey 79 a fictional one-act play.

In fact, most of us think we're respectable aviators. A few will even leave lasting contributions to the aerospace world . . . like . . .

—the lap belt, invented by Waldo Pepper when he became tired of being a victim of unplanned SIE (self-induced ejection) every time he pushed the stick forward.

—or the CARP, named after Arlo Carp after he had made an unscheduled departure from his biplane during a wing-walking routine. "Green light!" he shouted, being unable to remember "Geronimo?" (a Greek word meaning, roughly, "Who pushed me?").

(If you believe that, let's discuss the sale of some swampland I own in Goose Creek, South Carolina.)

The point, my friends, is that planning gives some of us an opportunity to become "great" aviators.

Planning is an edge for you. It promotes safety, esprit de corps, credibility, and increased life expectancy. Hmmm. Increased life expectancy, you say? Very interesting.

Mishap with a Moral

Most birdstrikes cause only minor damage to an aircraft. This time, it was a different story.

The $30 Million Birdstrike

It was a cloudy day in mid-November. At John F. Kennedy International Airport near Jamaica, New York, bird control measures had been stepped up. During the last month, the number of serious birdstrikes had increased sharply; now officers with shotguns patrolled the airfield while a loudspeaker-equipped vehicle emitted the tape-recorded distress calls of birds. But in the mud flats, swamps, and garbage dumps near the airport, flocks of gulls continued their activities.

At 1256, a DC-10 departed the gate in preparation for a flight to Frankfurt, Germany. Since the big trijet's gross weight was within 1,000 pounds of the 555,000-pound maximum, the captain requested takeoff on the longest available runway (14,572 feet). His request was approved; soon the jumbo was thundering down the runway toward liftoff. In the observer's seat, an airline employee happened to be filming the takeoff with a sound movie camera.

Everything was normal until the speed passed 100 knots. Shortly afterward, the captain saw a flock of birds on the runway; he estimated that about 100 of them took off, separated, and then regrouped in front of the aircraft. He alerted the crew to "watch the EGT's." There were about 9,500 feet of runway remaining.

The crew heard birds strike the aircraft and then heard one or more explosions. The captain pulled the throttles to idle and began rejected-takeoff procedures; seconds later, the fire warning light for the number three engine illuminated. The flight engineer shut down the engine with the fire handle.

In the cabin, the 128 passengers—all airline employees—watched in awe as the engine exploded and separated from the wing. Fire broke out immediately and engulfed the right wing; some side windows became so hot that passengers sitting next to them were forced to move. Panels fell from the ceiling; dense white smoke filled the mid-cabin, soon changing to black.

Meanwhile, the crew were doing their best to get the aircraft stopped. But one braking system had been lost when the engine disintegrated, at least three tires had been damaged, and some spoiler panels did not deploy; and, in addition, the runway was wet. As the aircraft approached the end of the runway, its speed was about 40 knots; the captain elected to turn left onto a taxiway to avoid a blast fence at the departure end. But the aircraft's speed was too great for the turn; it left the paved surface, collapsing the main gear, and slid to a stop across the taxiway. The crew shut down the other two engines and began evacuation.

The fact that all the passengers were airline employees and familiar with emergency procedures may have prevented

a tragedy at this point, since the increasing intensity of the fire left little time for escape. As it was, the aircraft was emptied in less than a minute; there were no fatalities and only minor injuries. A flight attendant later attributed the success of the evacuation to the airline's hands-on egress training.

After the crew and passengers were clear, the firemen still had their hands full. The trijet had 235,000 pounds of fuel on board at the time of the accident; much of this fuel funneled into a storm drain near the aircraft. Although the firefighters were on the scene within one minute, the accumulation of fuel in the storm drain made it impossible to extinguish the fire for *36 hours*.

The National Transporation Safety Board concluded that the crew had performed exceptionally well during the emergency. There had been no way to avoid the birdstrike, and once the damage had been done, no way to stop the aircraft on the remaining runway. But the crew had done what they could—and survived.

The moral here is that we tend to think of the birdstrike hazard in terms of nuisance value—a crumped radome, dented leading edge, or bent turbine blades—and it's time to change that thinking. Another aspect of this mishap worth noting is the difference that good training, good discipline, and good judgment can make during a critical emergency.

The Flying Circus

Here it is again, folks—a collection of assorted zaniness from the lighter side of the flying safety business. It's not often that an aeronautical misadventure can provide a chuckle as well as a lesson; but when it does, we think it's well worth hearing about. So, ladies and gentlemen, take your seats and prepare to enjoy another performance of The Flying Circus.

The $3 Million Home Movie

The pilot of the single-seat fighter was all set to take some movies of the three-ship formation as it returned from a range orientation flight. But first, since there was nobody else to fly the airplane for him, he needed to take the lead. He gave the hand signal for "change leads," and Lead acknowledged the signal with a head nod. The wingman engaged autopilot and altitude hold and busied himself with movie-making.

What he didn't know was that Lead had misunderstood the signal and hadn't bothered to clarify it (which would have been difficult anyway, since the wingman had inadvertently switched to approach control frequency along with another flight). The leader had acknowledged what he thought to be a request for an increase in power and returned his attention to the airspace in front of him.

The midair which followed shortly thereafter totaled one airplane and dinged the second; the pilot escaped with minor injuries. The movies turned out well and were of considerable aid to the accident board in their investigation.

—Adapted from *Airscoop*

"One Turning, Two Burning . . ."

" . . . and three standing at attention." Sound like an old B-36 war story? Well, not quite. The airplane was a KC-97—one of the first to be equipped with two J-47 jet engines—and the situation wasn't a dire emergency. Or at least, not at first.

It seems the crew of the tanker, impressed by their vintage machine's jet-augmented performance, decided to see if the critter would fly on jets alone. So on the way back from a mission, they feathered three engines, left one running at idle, and cruised along comfortably in the first all-jet KC-97. Pretty impressive—until it came time to restart the recips and head home.

The engine that had been left running was supposed to supply generator power (the jets didn't have generators), but as the airplane cruised along above an undercast, the generator quit. There was now no AC power for the flight instruments, the APU wouldn't work without weight on the gear, and the battery wouldn't provide enough power to unfeather the other three props. The crew was now faced with no choice but to find some VFR and put the bird on the ground without benefit of flaps or reverse thrust.

They cranked the gear down by hand, spotted a hole in the undercast near home station, and landed a little hot. But they got it stopped—in the overrun, about 30 feet from the ILS antenna. The narrative doesn't mention it, but we'll bet that shortly thereafter there were more than three standing at attention.

—Adapted from *Combat Crew*

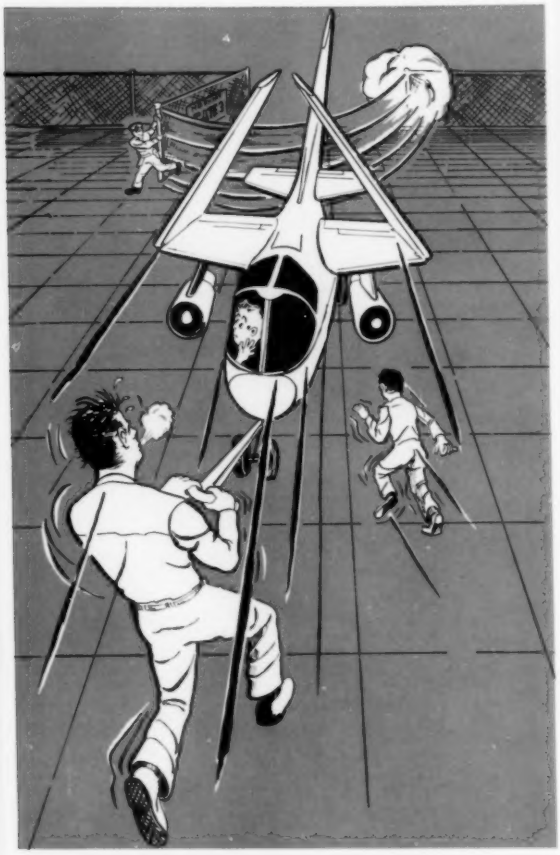
The Gate Escape

First, let's set the stage: a twin- engine cargo jet had just been towed to a restricted area for a practice loading exercise. There was a brake rider in the cockpit; the airplane was still connected to the tug, but not chocked. The bird was facing up a slight incline. Got the picture? Okay, now for the action.

A supervisor noticed that the nosewheel was cocked about 30 degrees and decided to straighten it by manipulating the towbar. He ordered the tug disconnected, grabbed the towbar, and gave the "release brakes" signal to the brake rider. The airplane started to roll; the nosewheel straightened; the supervisor gave the "apply brakes" signal.

So far, so good—except that when the brake

rider stomped on the binders, nothing happened. Parking brakes didn't help, either; the 15-ton aircraft was now accelerating down the incline with the supervisor desperately holding onto the towbar.



Unfortunately, there was a six-foot chain link fence behind the airplane. Fortunately, there was a gate in the fence. Unfortunately, the gate was closed. Fortunately, an alert gate guard sized up the situation in time to open the gate and let the aircraft roll through. The machine finally rolled across a paved street and came to an upward incline which brought it to an undamaged halt.

The report doesn't mention whether the brake rider and towbar holder showed their ID cards as they went through the gate.

—Adapted from US Naval Safety Center *Weekly Summary*

Up and Locked

Think there aren't any new ways to land gear up? Try this one. The civil aviator was preparing for a short pleasure flight to another airport for a fly-in breakfast. Being a little pressed for time, he didn't refuel before departure; however, there was plenty of fuel to get to his destination, and he completed a no-sweat, on-time arrival. For reasons known only to himself, he decided not to refuel for the leg home either. The quantity on the boiler-type fuel gauge looked okay before takeoff, but when he got airborne, it seemed to indicate a little lower than it had on the ground. He worried about it for a bit, then decided to press on. However, the distraction had caused him to miss a step in his after-takeoff routine: retracting the gear.

As he got closer to home, the fuel problem became more and more worrisome. At long last he made it to final with the engine still running. Heaving a large sigh of relief, he reached for the gear handle—and retracted the gear. The gear warning buzzer came on in the flare; the pilot, convinced that he had put the gear down, assumed it was a stall warning and ignored it.

Damage was chiefly confined to the propeller—and the pilot's pride.

—Adapted from *Flight Safety Bulletin*

Let's Do a 360 and . . .

The following tale was submitted to *TMF* by a MAC crewmember who shall remain nameless, for reasons which should become apparent shortly.

"I was the copilot on the lead ship of a flight of C-123's being ferried to Viet Nam in the late sixties. We were about four hours out of Hickam, headed for Midway. Since the Provider didn't have an autopilot, it was customary for the pilots to take turns flying—one hour at the stick, followed by an hour of R&R. It was the AC's turn to fly. He was splitting his cross-check between the panel and a hobby magazine; I was in the right seat, reading The Rise and Fall of the Third Reich; and the navigator was reading whatever it is navigators read.

"As I read, I couldn't understand why I kept getting warmer and warmer; after all, I was supposed to be on the shady side of the flight deck. I

checked the compasses: right on 290. Then I remembered one of the Provider's little quirks—every now and then the AC inverter would go able-sugar and the compasses would precess. The mag compass told the story; we had slowly turned left to a heading of 060 as the magazine-reading pilot chased the precessing compass heading.

"We reset the inverter, finished the 360, and made it to Midway without running into any more trouble—or into number two, who was 20 minutes behind us. I'm just glad we weren't pulling a contrail."

In a Rut—and Up a Tree

Overzealousness in getting the job done isn't a problem unique to military aviators, as a commercial pilot of a Cessna 185 found out. He had two passengers and 200 pounds of cargo and was under some pressure to complete the flight—but the grass strip was soft, muddy, and covered with puddles and ruts. Determination overcame caution, and he gave it a try.

On the first attempt at takeoff he couldn't get the tail out of the mud, so he chopped the throttle and got the Cessna stopped before running out of mudway. Still determined to go, he turned around and tried it again in the opposite direction.

This time the tail came partway up, but that was about the only success the pilot was due to have on this flight. In his own words: "I rocked the elevator back and forth, put down 30 flap, and pulled the aircraft off indicating 45 mph. With the nose high I realized I couldn't climb a hill ahead, so I turned left and got the nose down. I went under some powerlines and saw that I had to pull up to get over some trees. These came right up and the next thing I knew I was in the tops of the trees and sliding down the trunks with the left wing down."

The aircraft was totally destroyed; the only injury was the pilot's skinned nose.

—Adapted from *Flight Safety Facts and Reports*

"SHE'LL GO AWAY IF YOU TAKE YOUR WINGS OFF..."

Global Notes

Sergeant Makes Save

Another winner of the MAC Distinguished Individual Safety Award is SSgt Timothy R. Wallace, 36 TAS, McChord AFB, Washington, who responded rapidly to an emergency during a paratroop drop. A jumpmaster had inadvertently deployed his reserve chute as he knelt in the troop door observing the stick of troopers who had just left the aircraft. The chute partially deployed outside the aircraft, twisted up and under the cargo ramp and door, and pinned him against the lower trailing edge of the troop door and jump platform. Sergeant Wallace notified the pilot of the situation and stepped out on the jump platform. Reaching past the jumpmaster, he cut the chute loose, enabling him to pull the jumpmaster back inside the aircraft. The jumpmaster received no injuries.

The Beat Goes On

Over 60 aircrewmembers of 4 MAS, McChord AFB, Washington, have become qualified in cardiopulmonary resuscitation (CPR) techniques. Red Cross instructors gave them "hands on" training using dummies that simulate actual characteristics encountered during an emergency. Due to its extreme popularity, the program will continue with unit volunteers, specially trained as instructors, teaching the remaining crewmembers.

Following a close call with a stricken passenger, the program was developed to give squadron members CPR training in the event it is needed while airborne and no other emergency medical treatment is available. The 4th's desire to provide the most qualified crewmembers possible will insure greater safety for its passengers.

McChord volunteers practice lifesaving techniques.

Mechanical Expertise

When the C-130A's landing gear was lowered in the traffic pattern, the nose and right main gear came down and locked, but the left main gear remained in transit. TSgt Roy D. Jakeway, flight engineer with 63 TAS (AFRES), Selfridge ANG Base, Michigan, assessed the situation; however, the cause of the condition could not be found. Recycling of the landing gear produced no change in the gear's position. Skyhook was initiated and Dash One emergency procedures were complied with, but the gear remained unsafe. Technical representatives were unable to offer any further solution and, as the weather deteriorated, a gear-up landing appeared imminent.

Sergeant Jakeway removed the lower inspection window and, using a flashlight and mirror, discovered the aft antiskid terminal block assembly had moved out of position, causing a mechanical restriction at the shelf bracket. He recommended a possible solution: use a pry bar to physically move the terminal block assembly back into position. Working under extremely difficult conditions and using flashlight, mirrors, and a pry bar, Sergeant Jakeway pried the assembly into its proper position. The gear was lowered into the full-down position and chained, and the aircraft was landed without incident. For his assessment of the situation, corrective actions and can-do attitude, Sergeant Jakeway received the MAC Distinguished Individual Safety Award.

by Capt Ralph R. Padfield
71 ARRS
Elmendorf AFB, Alaska

Raven One-One-Four

(with apologies to Edgar Allen Poe)

Once upon a midnight dreary, while I pondered, weak and weary,
O'er my somewhat curious clearance and forgotten safety lore,
While I nodded, nearly napping, suddenly there came a crackling,
As of someone gently rapping, rapping out a code of Morse.
" 'Tis some FSS," I muttered, "tapping out a code of Morse,
Only this and nothing more."

And the sullen, sad, uncertain rumbling of each engine turbine
Thrilled me—filled me with fantastic terrors never felt before;
So that now, to still the beating of my heart, I stood repeating,
" 'Tis some FSS entreating my location to explore,
Some lone FSS entreating my location to explore.
This it is and nothing more."

Presently my soul grew stronger; hesitating then no longer,
I transmitted to the station, "This is Raven One-One-Four.
Is it I that you are calling? My reception is appalling,
And so faintly you were tapping, tapping out your code of Morse,
That I scarce was sure I heard you" — thus a voice I did implore.
Silence there and nothing more.

Deep into the cockpit staring, long I sat there wondering, daring,
Doubting, fearing violations that no pilot feared before.
But the silence was unbroken, and the HF gave no token
As to whom or what had spoken, calling "Raven One-One-Four."
So I banked my aircraft homeward, maxing engines to a roar.
Merely this and nothing more.

Soon I was on final turning, and my eyes were burning, yearning,
For the lights upon the runway, active runway twenty-four.
Looking forward to unstrapping, when I heard again the tapping,
But that unknown fearful rapping was much louder than before.
Once again I heard that tapping which was louder than before.
" 'Tis the wind and nothing more."

Suddenly there came a crashing, as if Thor were cymbals clashing;
Through my windshield then came smashing feathers, guts, and other gore.
From my visor to my leathers, I was drenched in blood and feathers,
And in shock I could but utter, "Tower, Mayday! One-One-Four."
That was all that I could utter, as I slumped unto the floor.
Only that and nothing more.

Thinking back I can remember, it was in the cool September,
That an Officer of Safety to the pilots did implore . . .
"Beware the eagle, tern, and starling, the albatross, the swan and gosling,
For they fly with wings a-beating, and your flight will be no more,
If a fowl comes crashing, smashing through that plexiglass before,
To clip your wings for evermore."

Unconscious now, my craft soon tumbled, and into the ground it crumbled.
So my farm was clearly purchased, when they got to One-One-Four.
"It's no use," relayed a PJ as he came to where my form lay,
"Seems a bird ruined his whole day, for there's feathers aft to fore.
Feathers blacker than the midnight, blacker than I've seen before!"
Feathers there for evermore.

After much investigation it was found to be a raven
That had smashed into my cockpit on that fateful night of yore.
And it was upon the morrow, that my friends had sought to borrow
From the bar surcease of sorrow for myself and One-One-Four,
For that fowl-destructed aircraft, call sign "Raven One-One-Four,"
Which will fly for nevermore.

Peering now through heav'nly portals, I observe you earthly mortals,
Watching Officers of Safety while to pilots they implore . . .
"Beware of condors, hawks, and falcons, breakfast flocks of gulls and martins,
For they'll strike as if from cannons, and you'll 'slip the bonds' no more."
Yet, I ask my fateful raven, "Will birds ever-cease to score?"
Quoth the raven: "Nevermore."

The Loop

by Capt Marcus L. Sherrill
Air Force Global Weather Central
Offutt AFB, Nebraska

A behind-the-scenes look at the computer flight planning business.

Hi, Charlie—I see you got the computer flight plan. What's our ETE?"

"Nine long hours—plus 15, yet."

"Good grief, you said you weren't a headwind navigator."

"Don't blame me, boss—the machine must be a headwind computer."

Sound familiar? You've probably heard something similar while you were chopping up that computer flight plan to fit on the form 25. If the time was too long or the winds too strong, you too may have blamed it on that "great computer in the sky." But the machine is only one element of a complex loop of information—and you as a crewmember are another very important element. Let's take a look at how the loop works, and at what your part in it really is.

Where It Begins

Actually, the circle of information can start anywhere—but let's take it from the beginning of mission planning for one MAC line mission. At Air Force Global Weather Central (AFGWC), Offutt AFB, Nebraska, a computer data base is constantly being updated with weather information from observing sites throughout the world, Air Force weather aircraft, other government agencies, and a network of satellites covering the globe. Here at AFGWC, this incoming data is continuously reviewed to insure the most accurate forecasts and products for the field.

"What's in a TERB?"

At the same time, area flight planners at 21 AF, 22 AF, and HQ MAC are reviewing flight plan requirements for the upcoming mission. One of the aids available to the planners is the Time Enroute Bulletin (TERB), which gives them a summary of times and wind factors for a variety of routes. There are 6,800 of these tracks available; combine them with the 1,300 possible profiles (type aircraft, altitude, airspeed, and temperature deviation) and you have the possibility of millions of different flight plans—although some of them might route your T-39 nonstop from Randolph to Ramstein at 9,000 feet.

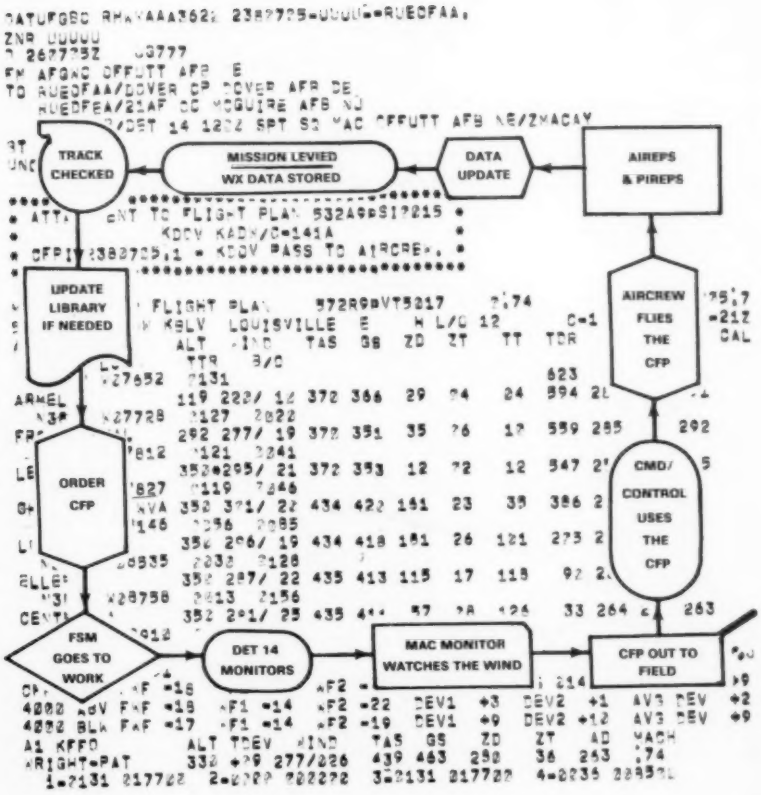
If the combination of track and profile meets mission requirements, the planners can order the computer flight plan. However, if the desired track isn't in the TERB, things get a little more complicated. The flight planners have to select a track for the mission, store it in the computer, and add the correct profile. With the new track and profile stored, they can order the CFP in the normal manner.

At this point another unit comes into the picture. Back at AFGWC, Detachment 14 of the 1200th Support Squadron monitors all changes to the computer libraries and the production of all flight plans, insuring that all changes are fully processed and that all the CFP's requested are produced and transmitted. Detachment 14 also does the computer processing for C-5A Cold Boom air refueling missions.

Enter: The Computer

Now the machine gets involved in the loop. Once the computer receives the flight plan request, it starts the Flight Simulation Model—the program that does the computations to produce the flight plan. Since the computer can do about 60,000 things a second, it will take only about 4.25 seconds to finish the job—considerably quicker and often more accurate than the results achieved at 0200 by a still half-asleep crewmember cussing the command post.

Once the route is identified, it's broken up into "grid" legs—not to be confused with grid navigation—and the midpoint of each leg is determined. The computer then uses the weather data for an assortment of times and altitudes and interpolates for the planned profile and track; it's like averaging the values at the corners of a big box in the sky to get a value for the center. Once the values for winds, temperatures, and temperature deviation are determined for each midpoint, the route is "flown" in the computer. Fuel figures are deter-



mined from the same 55-series tables that you use; the only difference is that ours are stored as computer information instead of in the flight planning room. Once the numbers are totaled up, the flight plan is done—and in 95% of the cases, it's transmitted to the field in less than an hour from the time it was requested by the area planner.

Closing the Loop

Once the flight plan is in your hot little hands, the final quality control check begins. Of course you'll check the correctness of the route information and the fuel figures during the flight planning, but another very important cross-check has to be performed during flight. That's right—I'm talking about aireps.

Every airep and pirep received is reviewed and plotted at AFGWC. In heavily traveled areas with numerous inputs, the airep is added to the total information; in an area of few reports, a single set of aireps may result in a change in the data base. In either case, if the experts who monitor the CFP's see that changes in the values are needed, the computer data base is updated immediately; all the flight plans produced after that moment will have the new values. This revision and updating of weather information is your part in the loop—and a very important part it is.

On the average, AFGWC produces about 650 CFP's a day, all year long—not including special flight plans prepared by the AFGWC Current Operations Branch for the 89th Military Airlift Wing, the 41st Rescue and Weather Reconnaissance Wing, and other special MAC operations. Other major commands also utilize MAC CFP's. So you can see that a lot depends on the accuracy of the information you provide.

Well, that's the loop—a system involving hundreds of people around the world, the computer, and you. So keep those cards, letters, and aireps coming in, folks. We aim to please, and the better aireps we get, the better our aim will be.

ABOUT THE AUTHOR

Captain Sherrill is assigned to Air Force Global Weather Central, Offutt AFB, Nebraska, as OIC of and systems analyst on the Flight Simulation Model, the computer flight planner. He entered the Air Force through ROTC after earning his bachelor's degree at the University of Evansville, Indiana. Captain Sherrill's first assignment was as Satellite Simulations Officer, Sunnyvale, California. Then, after completing navigator training, he flew HC-130's with 31 ARRS, Clark AB, participating in combat rescue missions in Southeast Asia. Captain Sherrill returned to Southeast Asia in 1973 to fly combat missions in the AC-130 with the 16th Special Operations Squadron. Prior to his present assignment with AFGWC, he was a C-5 navigator and Command Post Senior Controller at Dover AFB, Delaware.

Major Merrill and Captain Macken

The mission began as a routine local training flight for Maj Robert L. Merrill and Capt George Macken III, Det 2, 1400 MAS, Randolph AFB, Texas. Major Merrill, the aircraft commander, was instructing Captain Macken in CT-39 functional check flight procedures when the master caution and DC-generator-off lights illuminated. A check of the loadmeters showed zero for the left generator and 1.5 for the right generator. The pilots initiated the electrical-power-system-failure checklist, but could not regain normal generator operation. They began preparation for a return to Randolph using battery power only.

Suddenly, the aircraft filled with dense smoke. Checklist procedures failed to correct the problem, so Major Merrill drew on his extensive knowledge of the local area to locate the nearest emergency landing field—a 3,300-foot runway near Junction, Texas. As the crew headed for the emergency field, the smoke became so thick that they were forced to open the pilot's side window for better visibility.

In the pattern, Major Merrill and Captain Macken recognized the necessity to conserve their limited battery power. They lowered the gear using the manual emergency extension system, then turned on the electrical master switch long enough to check safe gear indications, lower the flaps, extend the speed brake, check fuel quantity readings, and trim the aircraft for normal landing control pressures. On short final, they turned the master switch on again to provide hydraulic pressure for braking and electrical power to retract the flaps after landing—both highly important in getting the Sabreliner stopped in the limited runway length. The CT-39 touched down 300 feet past the approach end of the runway and stopped in 1,800 feet without incident.

Investigators found the problem: a faulty relay which overloaded electrical wiring in the passenger compartment.

For their rapid, correct reaction to a critical emergency situation, Major Merrill and Captain Macken received a congratulatory message from CINCMAC. *The MAC Flyer* is proud to add: Good Show!

Speaking of Discipline

It's not just for buck sergeants and second lieutenants.

Very often, it seems that words of wisdom on aircrew discipline are aimed at the younger troops. We tend to assume that a crewmember's willingness to abide by checklists, rules, and regulations increases along with his flying time, until finally he's a self-disciplined individual who always follows the rules and insures that others do so as well. But like all assumptions, this one may have some flaws—as the following incident illustrates.

Not so long ago, a DC-3 flown by a crew of government officials crashed on takeoff, seriously injuring the three occupants of the cockpit and one passenger; seven other passengers escaped with minor injuries. The aircraft swerved during takeoff, rose briefly into the air, then impacted the runway and skidded into a 35-foot-deep gully; the aircraft was destroyed. The accident investigators found that the pilot, who was not qualified in the aircraft, had lost control and that the experienced copilot had failed to take control until it was too late.

Not an unusual combination of human errors—but a deeper look into the circumstances of the accident reveals some startling lapses in discipline. The unqualified pilot, a regional director of the agency, had never flown a multi-engine aircraft with a tailwheel; yet the pilot-in-command invited him to fly and allowed him to take the left seat while the copilot took the right seat. The pilot-in-command then stood in the cockpit during the takeoff. Neither he nor the copilot checked to see that the tailwheel was locked for takeoff (it was later found unlocked); neither of the occupants of the pilots' seats used a shoulder harness and three of the passengers (all employees of the same agency) did not have their seat belts fastened.

This sort of thing, of course, is not confined to civil flying; several recent Air Force accidents have involved lapses of discipline and judgment by instructor- or flight examiner-qualified crewmembers, including senior personnel in supervisory positions. The point should be obvious: discipline isn't just something a low-time crewmember needs to make up for his lack of experience. It's entirely appropriate for an experienced crewmember to use his knowledge in deciding how best to apply the rules he's been taught; but no amount of rank, position, or flying time can justify disregarding the book altogether.

Helicopter Legs

It doesn't matter how long they are, as long as they'll get you where you're going.

by **Lt Col James Dunn**
Det 13, 41 RWRW
Osan AB, Korea

Witness the world's greatest helicopter pilot (aren't we all?) chugging back to base after completing a routine flight. All's well when suddenly, and shockingly, the fuel-low-level light flickers and stays on! Initially the world's greatest thinks, no sweat, the field's in sight—only about seven miles. But as doubts start to crowd his mind, the muscles on the back of his neck twitch a little. Hmm, wonder if the fuel quantity indicator is

really right, he thinks. Could be that the fuel-low light isn't calibrated correctly. It's a hell of a thing, hanging your entire career on one puny little light. But four minutes later, the Huey touches down just as the rpm drops off. The pilot's Nomex is thoroughly soaked but the crew is safe on the ground.

Just the night before the world's greatest had bragged at the bar about being a "leg man." Long and lean was the way he liked them, he had said. And he never missed an opportunity to check out a particularly shapely pair. Too bad he didn't check the legs on his Huey, huh?

I've heard some pilots say that the Huey has such short legs that you can't even see her shoes. It's for sure that the "N" and "H" model Hueys have a very limited range. The "3" and the "53" do better, but all of them act about the same when fuel starvation sets in.

Fuel Starvation?

C.R. loves to tell this story about one of his famous non-scheduled arrivals in an Iowa farmer's field.

"What's the problem, city fella?" asked the farmer.

"Fuel starvation," the Rotund Rotorhead responded.

The farmer stared at the Round One dubiously. "You sure you ain't just outta gas?"

Helicopter history is filled with accidents resulting from fuel starvation. The malady has not been limited to Air Force machinery; our sister services and the civilian types have suffered too. A partial cure in the form of auxiliary tanks has helped. But there is still the temptation to stretch the fuel for one more approach or to search just a few more minutes. Most experienced helicopter pilots have sweated low fuel at one time or another. If you haven't, you will. It's just a matter of time.

Let's take a couple of hypotheticals. With the push on for IFR operations, self-respecting helicopter pilots will file instruments frequently. So you (as a self-respecting helipilot) do. In your fuel calculations, do you plan for at least one swing around the holding pattern? Don't forget that jet traffic gets priority. Do you make allowances for the weather? Suppose it turns sour; will you have enough fuel to get to your alternate? And how much fuel should you have on board at the IAF? Certainly this isn't a typical situation for rotor-floaters—but it can happen.

Or how about this one: You find yourself X miles from homeplate after a spectacular life-saving mission (yours) when you realize that fuel is a little on the low side. And sure enough, the longer you fly, the lower the gauge reads. Is there anything you can do or could have done to increase your gas mileage?

Start Early

Educate yourself; be prepared for such happenings before you reach the critical point. Know your best range power setting/airspeed/rpm and fly just that—nothing more or less. You'll probably be surprised how little this max-range airspeed will change with the small variations in day-to-day gross weight changes.

Why not try a practice maximum range fuel computation just to get the mechanics down? Bet you a Coke you'll learn something!

No-Notice Quiz

1. What is the best range airspeed to get the maximum number of miles per pound of fuel at your normal configuration?
2. What helicopter factor affects the optimum cruise altitude?
3. What's your bird's maximum endurance airspeed?
4. How much fuel reserve is required at termination for VFR/IFR operations?
5. How much fuel is remaining when the fuel-low-level caution light illuminates?
6. How reliable is the fuel quantity indicator?
7. If an alternate is required, how much fuel is needed at the IAF?
8. What action is *required* when the fuel-low caution light illuminates?
9. Do you have an alternate plan if you can't transfer fuel?
10. What will an unforecast 15-knot headwind do to your planned fuel reserve?

If you can answer all ten questions, you've got quite a "bag of tricks" to reach into for some leg-stretching magic.

One of the truly beautiful things about a helicopter is that you can land it almost anywhere. But when the fuel-low light comes on, don't wait for the fuel pressure to go down before you act. Swallow your pride and put your machine on the ground. It's a lot easier to explain this type of landing than an autorotation! In a tight situation, it's a *real* leg man who knows how to use his head.

DÉJÀ VU

Ascension Island

At eight degrees south latitude and about halfway between South America and Africa is Ascension Island. It's officially an auxiliary airfield; the troops call it "Wideawake." A small island—only six miles across at the widest point—Ascension is extremely rugged. Two large, steep hills border the southwest edge of the runway, their bases reaching within 225 feet of runway centerline. The highest of the nearby hills rises more than 500 feet above the runway; but Green Mountain, three miles east, rises to 2,817 feet.

Ascension has one runway, 14/32, which is 10,000 feet long and 150 feet wide. Runway 14 is the nonprecision runway, with tacan and ADF approaches available; check the Africa FLIP terminal. Runway 32 is for VFR approaches only.

There is a 250-foot cliff just prior to the approach end of runway 14. This can cause hazardous turbulence and downdrafts as well as contributing to landing illusions caused by the initial upslope of runway 14.

Aside from terrain problems, Ascension has an above average potential for birdstrikes. A large number of wideawake terns (tropical swallows) occupy the island, nesting in the rocks just northeast of the field. Another problem is the sheep and burros that roam the island unrestricted and could stray onto the ramp, taxiways, or runway.

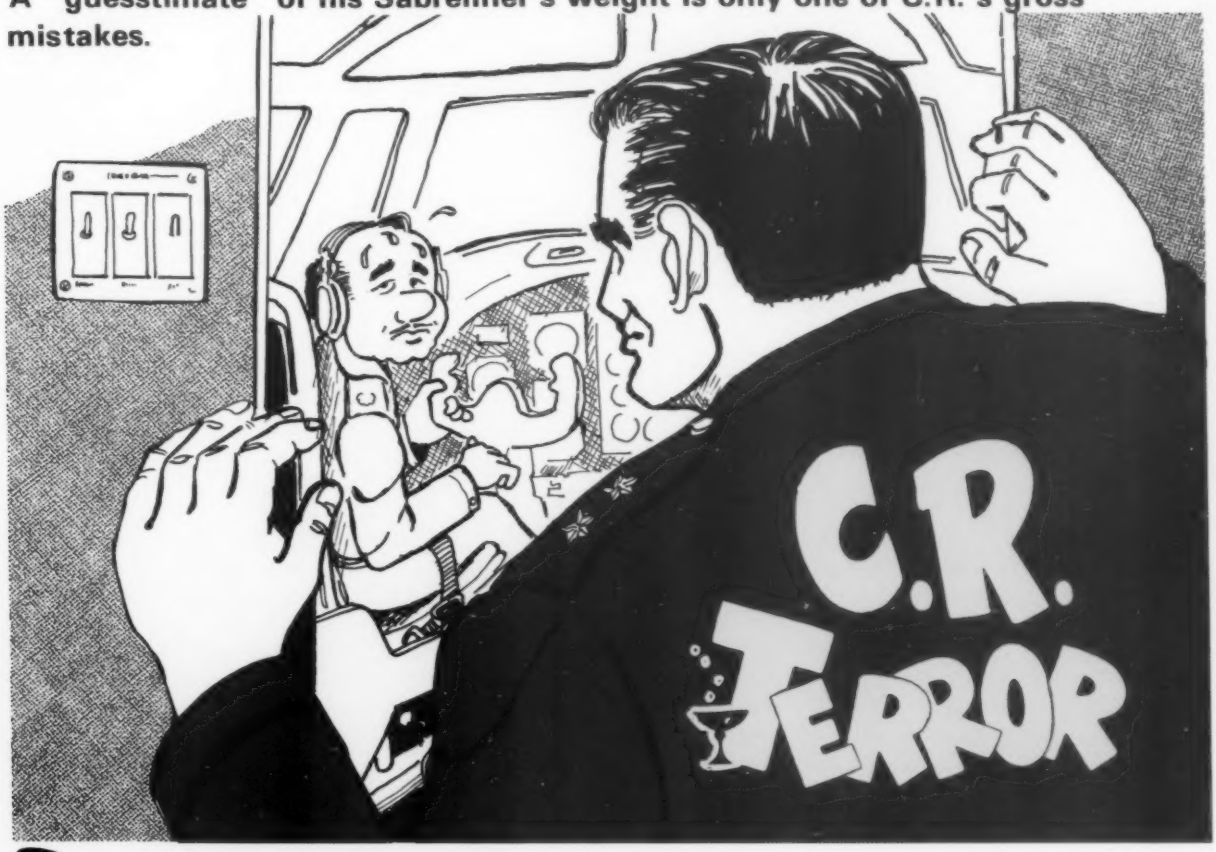
—Adapted from ISD-Q6-442

Proximity of steep terrain is evident in this view from the southwest.

Runway 32 is used for visual approaches only.

Runway 14 from one and a half miles out.

A "guesstimate" of his Sabreliner's weight is only one of C.R.'s gross mistakes.



The Master Manipulator and his faithful copilot had just finished the taxi checklist when a booming voice filled the cockpit of the CT-39.

"Well, Major, are we going to get this thing in the air on time? General Fourbanger expects me at Randolph at 1300 sharp, and I'm not about to keep him waiting."

C.R. glanced over his right shoulder at the looming bulk of General Bullmoose. The general's brow was furrowed as he gazed at the Rolex Oyster strapped to his brawny wrist.

"No problem at all, General," C.R. reassured. "As a matter of fact, my copilot and I were specifically assigned to this mission based on our, ahem, proficiency at on-time departures."

"Very well, Major. Just be sure you keep it that way." The general turned carefully and began easing his massive form back to the cramped passenger compartment.

In the right seat, Sam frowned dubiously. "I dunno about our gross weight, boss—the general's sure a big guy, and those four space-A Marines aren't any lightweights, either. Then there's all that extra baggage and your golf clubs—"

"Sammy, m'boy," C.R. chided gently, "will you never learn? Look—we fly this airplane by the book, right? And the book in this case is the form 365F, right? Now, the form F says that one pax plus baggage weighs 200 pounds—and who are we to argue with the book? Before-takeoff checklist."

"Yes, sir," Sam sighed in resignation. He ran down the checklist carefully. "Crew briefing," he challenged.

"Same as the last one. Any questions?" C.R. responded.

"Sir, if we're going to go by the book, you really ought to do a briefing," Sammy prompted with a hint of amusement in his voice.

"Oh, all right, Sammy, have it your way," the Petulant Pilot snapped. Then he rattled off in a machinegun staccato: "This'll be a standard MAC reject unless we get airborne in which case we'll declare an emergency I'll fly the airplane you talk on the radios don't touch any of the red handles and don't move any of the gray ones very much emergency safe altitude within 10,500 nautical miles is 31,000 feet any questions?" He

glared at his right-seater.

"Ahh, no, sir," Sam answered meekly. He finished the checklists and shortly the Teeny Weeny Airliner was airborne.

As they passed FL 250 C.R. frowned thoughtfully at the VVI. "Sammy, our air'chine appears to be climbing with an alarming lack of alacrity today. Do you suppose they've been taking the lift out of the air?"

"Well, sir, I still think we're overweight; I kinda doubt we'll be able to make 370. And that's sure to put us in a bind for fuel. I wish you'd computed some en route data instead of using that computer flight plan from last week."

"Well, I'm certainly not to blame for that," the Ace of Alibis retorted. "Those nonsupport types didn't get us a current flight plan, and I wasn't about to keep the general waiting while we filled squares. First things first, m'boy—that's the secret to getting along in the aviation vocation. Besides, if we start running short of hydrocarbons we'll just push it up to .77 and get there before the tanks have a chance to get empty. Just wait and see, Sammy— I'll be on the first tee at Burning Bush by 1400."

But the Great One was soon to discover some flaws in his scheme. Unable to reach FL 370, the Dynamic Duo were restricted to FL 290 due to traffic. With the effects of a too-low altitude, a too-high airspeed, and a 50-knot difference between the computer-flight-plan winds and reality, it soon became apparent even to the Field-Grade Fumbler that their fuel wasn't going to last long enough.

"Sammy," C.R. commanded, "you refile for Mexicali Air Patch. I'll nip into the back and summon up all my tact and diplomacy whilst I explain this, er, minor deviation to the general. And keep the airspeed up—we need to make this the quickest refueling stop in history."

"Sure, boss—but why Mexicali? With the pressure altitude and temperature you get at that place, it can get pretty sticky on takeoff. We could make it to Lowlands AFB just as easily."

"Temperature? You've gotta be kidding," the Rotund One scoffed. "Everybody knows it doesn't get hot in October. And besides, the Mexicali snack bar is unquestionably the enchilada capital of the MAC system." He winked at Sam. "There should be just time to provide some of the nourishment essential to an aviator's metabolism while the transient alert folks do their thing."

Sammy, who was well acquainted with his Bulgy Boss's Mexican food fetish, nodded in acquiescence and keyed his mike.

C.R.'s explanation to General Bullmoose went surprisingly well, considering the circum-

stances. As he deplaned at Mexicali he merely growled, "I'll be in the DV lounge, Major. I'll expect to be called in 20 minutes—and I don't mean 21. Do you read me?"

"Ah, y-yes, sir," C.R. stammered. "You have my personal guarantee that—" but the general was already striding toward the terminal.

The Master Manipulator whirled toward the waiting transient maintenance troop. "Here's the credit card—gimme a wing load, and make it snappy. Sammy, you go make sure they've got our new flight plan in the computer; I'll meet you back here in ten minutes." Without waiting for a reply, he set off in a bandy-legged trot toward the snack bar.

"Wait a minute, boss," Sam shouted after him. "It's pretty hot; we'd better check the data before we put on a whole wing load."

"No time," the Round One shot back over his shoulder. "Get busy on that flight plan, Sammy, or we'll be Bullmoose-meat for sure." He disappeared into the snack bar; Sam shrugged and headed for base ops.

As the Galumphing Gourmet hurried back into ops a few minutes later, he spotted his copilot staring glumly at the performance charts in the back of his checklist. "C'mon, Sammy," he prodded, wiping taco sauce from his chin. "Let's get with the program. You can read that thing in your room at Randolph."

"But, boss, it says here we're too heavy to take off. We haven't got any single-engine rate of climb at this temperature and PA. We'll have to offload some fuel."

"Are you kidding? And make the general miss his appointment with Fourbanger? We'd both wind up with four-year tours flying paper airplanes at Shemya. And besides, that flying speed brake out there has two engines, not one. Now go get the clearance on request and

crank number two; I'll get the pax." He hurried toward the DV lounge.

Minutes later, the Sabreliner was accelerating sluggishly down the runway. C.R. and Sammy watched the gauges anxiously; the EGT seemed to be climbing faster than the airspeed. "C'mon, you refugee from a scrap heap," urged the Master Manipulator, "let's go. Act like a jet airplane, will ya?"

Finally, at the 2,000-foot-remaining marker, the minijet reached rotation speed. With a sigh of relief, C.R. hauled back on the yoke. The airplane rolled along on the mains for a few seconds, then reluctantly lifted into a shallow climb.

"Boss, WATCH OUT!" Sam yelled, pointing toward their 12 o'clock.

"Wha—" C.R. began; then he spotted a dark object hurtling toward them. The bird glanced off the right side of the cockpit and slammed into the number two engine. There was a loud bang from the back of the aircraft; the right-hand fire warning came on, and the Addled Aviator watched in anguish as the number two rpm began winding down. Deprived of half of its thrust, the Sabreliner settled slowly earthward.

"AArrgghh! Sammy! Help! Pull the handle! Jettison the cargo! Do something!" C.R. yelled in panic as he watched the departure end of the runway vanish beneath them. Finally, ground effect took over; the struggling aircraft leveled off at about two feet AGL, blasting tumbleweeds into motion with its wake.

Beads of perspiration glistened on the Bald One's forehead as he looked forward. They were about to cross a four-lane highway; from the left, a huge 18-wheeler was rushing toward them on what was obviously a collision course.

"YEEOOWW!" the Petrified Pilot screamed, instinctively shoving in right rudder and a touch of aileron. For a second, he heard the angry blast of the truck's air horn and caught a glimpse of the astonished driver's face as he looked *down* at the hurtling airplane. Then they were clear and over the desert again. Jackrabbits scattered in panic; powerlines whizzed by overhead.

Ahead of them was a patch of green, strangely bright against the dull tan of the desert. But C.R.'s attention was fixed on the VVI which was ever so slowly beginning to indicate a slight climb. "See, Sammy," he began, "I told you we'd—"

"What the hell is going on up here?" a huge bass voice bellowed in the Great One's ear. General Bullmoose had decided to investigate the situation; however, his timing was unfortunate. The CG change as he moved to the front of the aircraft lowered the nose slightly; the slight climb turned into a slight descent. Then a bounding tumbleweed found the intake of the already overboosted left engine.

There was another loud bang, a sinking sensation, and a long, long series of jolts and bounces. C.R. wondered vaguely why everything looked green. Then there was silence, broken only by the occasional ticking sounds of cooling metal.

The three men stared out of the cockpit in amazement. In front of them, an equally amazed foursome stared back. Golf clubs dangled from their hands; next to them was a sign reading "No. 2—455 yards, par 5."

General Bullmoose finally broke the silence. "Major, I don't know what you're planning to do about this, but it had damn well better be good."

The Penitent Pilot thought deeply for a moment. Then, with a smile as weak as his voice, he turned to the red-faced two-star.

"Well, sir, ah—if you don't mind sharing my clubs, we could try to get in a few holes before the board convenes."

Quick Stoppers

Fumin' Drone

About ten minutes after takeoff, the pilot was manuevering the Hercules through 6,500 feet MSL when the loadmaster announced that fuel was "pouring" down the left side of the cargo compartment.

The pilot declared an emergency with center and sent his engineer back to investigate. Center responded by clearing the 130 through a restricted area to the nearest suitable airdrome—and the engineer found that the fuel was coming from an Army deuce-and-a-half loaded in the cargo compartment.

The pilot took vectors for a straight-in visual approach and landed the bird without reversing and very little braking on the long, long runway. The crew shut down the Allisons and departed the aircraft.

Trusty firefighters flushed the floor of the cargo compartment, the Herk's hold was unloaded, and again the floor was washed down.

Aboard the Army truck, our troops found the cause of the spill. A disassembled drone's 16-gallon fuel tank had leaked some five gallons of fuel. The drone was not manifested nor was the crew warned of any hazardous cargo aboard.

Checkitis

It was just your routine late morning departure for an overwater recce flight. The Herk was level at FL 180 and the cabin altitude was between 500 and 1,000 feet. Back in the back, one of the weather observers was getting a no-notice evaluation. About two hours into the mission, the young observer complained of feeling slightly ill, but not bad enough to discontinue the mission.

A short time later, the WC descended to 10,000 feet (cabin altitude: 500 feet) for storm reconnaissance training. Four hours into the flight now, the ill crewmember reported symptoms of dizziness, blurred vision and nausea. He could no longer continue as a primary crewmember, so the flight examiner replaced him and the young troop got into the crew bunk. But symptoms persisted and worsened until, after slightly less than five hours of flying, the aircraft commander decided to terminate the flight.

A flight surgeon met the aircraft and examined the weary weatherman. The doc's diagnosis? Hyperventilation due to nervousness and apprehension associated with the no-notice check.

Provider Propeller Problem

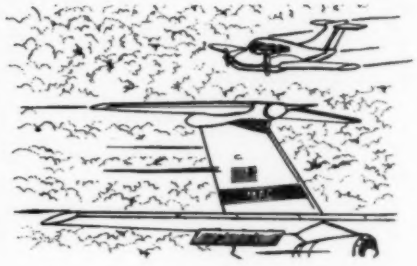
Just a typical, hot, July morning; the C-123K rolled down the runway and became airborne, seemingly without effort. But on climbout, the pilot noticed that the number-one-propeller-oil-level light had illuminated. He activated the oil-replenish switch and the light went out in about 45 seconds. No sweat and press on.

But a couple of minutes later the light came on again, and again the pilot activated the replenish switch. This time, no luck. The light stayed on and the troops elected to shut number one recip down. An uneventful approach and landing followed.

Back in the chocks, maintenance investigators found that the prop oil had been improperly serviced *and* that the emergency-replenishing solenoid had failed, depriving the pilot of engine oil to replenish the prop.

Post-Traffic Advisories

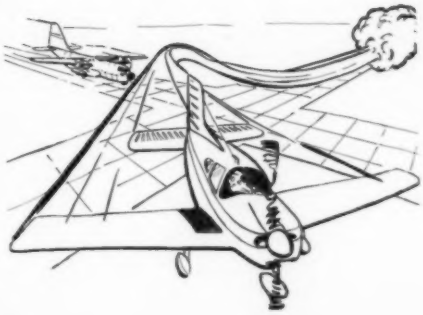
The Starlifter and crew had just been handed off to tower by approach control. Their altitude: level 820 feet (400 AGL) on tacan final. A light aircraft passed over them approximately *100 feet* higher.



Though the weather was VMC, it was a hazy, early morning and tower advised that it did not have a visual on the lightplane. Shortly thereafter rapcon reported that the civilian had requested traffic advisories and that they were now working him. Guess *something* got his attention.

Caution: Dangerous Intersection

This close call was a little closer to terra firma, but just as scary. The C-130 had been cleared for circling approach and landing. Just after touchdown, the crew saw a Piper Cherokee in the flare for landing on the converging runway. Almost simultaneously tower issued go-around instructions for the lightplane. The pilot of the Cherokee executed some low level aerobatics to avoid collision with the Hercules. Witnesses estimated that his bank angle reached 60 degrees as he turned away from the rolling turboprop. Without this evasive action, the aircraft would have collided at the intersection of the two runways.



How did it happen? The Cherokee pilot had been cleared for a straight-in approach to the converging runway. He was directed to call two miles out on final. He misunderstood the instructions and failed to call. The tower first sighted the lightplane as it was in the flare for landing.

Qs

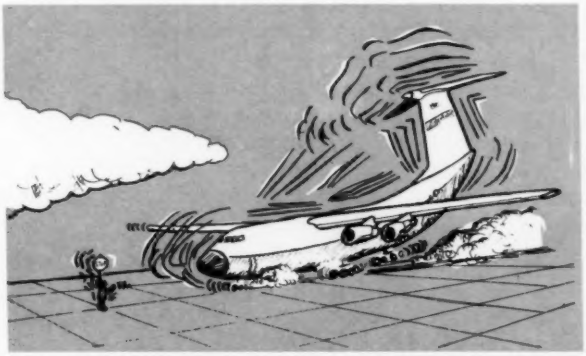
Stop It!

Rejected takeoffs are never fun but when your gross weight is around 650,000 pounds, your pressure altitude is 2,000 feet, and your indicated airspeed is approaching 110 knots, even the mind's eye blinks. And what would cause ol' Albert to change his mind at such a critical time? An engine fire? A blown tire? Something dire? No. Would you believe an *AM-4* ? (That's a mission setup message for you non-operators or staff types that have been so long out of the cockpit you've forgotten the 24-hour crew duty day.)

That's right, a piece of paper was the culprit—aided and abetted by some humans. Seems the Supervisor of Flying (SOF) had received the C-5's departure time via telephone from the numbered air force command post but he didn't have the hard copy in his hand. The SOF had completed his prelaunch check on the Galaxy and was inside base ops trying to contact the numbered air force again for confirmation. He couldn't see the runway or the aircraft, so he called the local consolidated command post and asked them to hold the Galaxy pending confirmation. The CCP controller immediately picked up the tower hot line and asked the tower controller to "hold the C-5."

Tower queried, "The C-5 has just started his departure roll; do you still want him to stop?"

"Yes," came the reply.



So tower transmitted to the C-5, which was now rumbling along at 100 knots plus, " . . . cancel takeoff clearance. Command post wants you to contact them . . . "

Well, no *big* problem—the C-5 driver had over 10,000 feet remaining and got the big bird stopped. No damage to the aircraft, just a lot of JP-4 turned into decibels and hydrocarbons, and a few jangled nerves on the flight deck.

Notable Quote

"A superior pilot is one who stays out of trouble by using his superior judgment to avoid situations which might require the use of his superior skill."

Directorate of Flight Safety
Royal Air Force

after deadline . . .

ERRONEOUS LOCALIZER COURSE INDICATIONS may be lying in wait for unwary aircrews. The new solid-state ILS equipment now being put into service provides localizer coverage in an area 35 degrees to either side of localizer centerline--but a recent flight test revealed the possibility of receiving on-course indications when the aircraft is outside that area. The only guarantee of proper localizer indication is to cross-check your position throughout the approach.

IF YOU DON'T KNOW WHAT IT DOES, DON'T MESS WITH IT. A CT-39 pilot noticed one of his passengers attempting to open the entrance door after engine shutdown. The AC warned the pax to wait; but he pressed on, dropping the door and cracking four hinges. The damage: $775. Future CT-39 passenger briefings will advise that only qualified people will operate aircraft components or systems.

A LEGAL ATC CLEARANCE could have been fatal for the crew of a Starlifter flying in Europe. Cleared for descent to FL 100 in a mountainous area, the crew wisely decided to maintain the emergency safe altitude of 13,200 feet--which kept them clear of an 11,000-foot mountain range. The clearance was legal because the 141 was flying in uncontrolled airspace where the aircrew is responsible for establishing minimum safe altitude.

FINAL TESTING OF A CT-39 ANTI-SKID SYSTEM is nearly complete; installation on the fleet should begin in January 1978. No word yet on thrust reversers, spoilers, or drag chutes.

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CHAINS AND TIE-DOWN STRAPS FLYING around the cargo compartment can be the result of negative G's as a C-130 crew recently found out. When the Herk crew unknowingly flew into severe turbulence, chains and straps were thrown from the aft chain box as far forward as the wheel well. The chain box latches weren't sturdy enough to withstand the stress.

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Touch 'n Go

"Careful - This is my first time."